

**EXCHANGE OF NEWLY-ADDED INFORMATION OVER THE INTERNET
RELATED APPLICATIONS**

This application claims priority from U.S. Provisional Patent Application Serial Number 60/557,017 which was filed on March 26, 2004

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention generally relates to the field of accessing and, more particularly to a system and method for collecting and supplying ranked and indexed information as a free or premium (e.g. pay) service to users and advertisers.

2. Description of the Related Art

The internet has grown to such that it now contains several billion addresses. Each one of these addresses may have an associated website and content which changes without prior notice. Alternatively, websites may be dynamically linked to other sites or to devices via web services or xhtml links. Such changes in content and linkage may occur several million times a day. Oftentimes, these "postings" and changes are initiated by third parties. The search engines and other services looking for such changes may not always locate or index the sites. As a result, the web users may not be aware of postings or changes to these sites.

The increasing need for reliable and up to the minute search, price and news information has made it

5 increasingly difficult to find and rank (e.g. by most
recent order) new information one is looking for in the
ever growing global Internet. For example, most
conventional search and news gathering engines focus on
crawling and indexing an existing and mostly static
10 inventory of websites. Due to the sheer size of the
internet, there is a growing lag between the time a new or
existing site or content of the site is published and the
time such information becomes available as indexed data on
popular search engines. Although most information on the
15 web is free, many subscribers and advertisers are willing
to pay for such information if it can be delivered in a
"ranked and indexed" format to each relevant subscriber
based on queries supplied by the requestor of the
information.

20

The global economy is becoming more and more
integrated. As a result, access in real time to the latest
relevant information has become critical to doing
business, such information can make the difference between
25 successful companies and unsuccessful companies that lag
behind with respect to their ability to react to changes
in the marketplace. Presently, the majority of
competitive information is delivered by specialty research
and financial firms via proprietary subscription to many
30 fragmented networks, such as Bloomberg and Reuters. This
information is used primarily by industries, such as the
financial markets, which rely on this information. In
addition, it is provided without any filtering, and it is
up to the user to find relevant data in the vast quantity

5 of publications, such as daily news releases and press announcements.

Although some search functions are available for searching publications, these search functions only
10 provide limited access to on-line information, and cost additional usage fees. In addition, it is up to the user to initiate a query with clear knowledge and understanding of what he is searching for, as well as how to access the information and find its relevance. In most cases, such a
15 search will not include the latest 30-90 days worth of publicly available information that resides somewhere on the World Wide Web (www). The concept of broadcasting the news to many subscribers is not new *per se*. However, there is no incentive, process or a single location which
20 is capable of accepting, aggregating and redistributing all published information sources, as well as providing a fast and reliable control and query based real-time dissemination of such information. Accordingly, there is a need to provide a way to collect and supply ranked and
25 indexed information service to users and advertisers.

There is also no system that collects and adds advertising or relevant information to such new information and then disseminates it to interested
30 parties and provides for market based pricing for such advertising services.

As the majority of devices connected to the web migrate from being dominated by PCs to wireless handheld

5 devices, the context and form of search and related services need to change to accommodate the special location, size and space limitations of these devices

SUMMARY OF THE INVENTION

10 The present invention is a system and method for collecting and supplying ranked, indexed information as a free or premium (e.g. pay) service to users and advertisers. In accordance with the invention, an information exchange is operated so as to aggregate,
15 publish and subscribe Really Simple Syndication (RSS) , web services and other protocol based information from different web based and proprietary network sources. In addition, real-time notification and access to the information is provided. Recently published news or price
20 and inventory information, new services or products are published into the system. Upon entry of the information, it is processed and distributed by the system to people, related parties or other systems that have expressed an interest in being notified of the type of published
25 information as it becomes available. RSS is an XML format for sharing headlines and other web content.

The delivery of the information is based on queries or listing topics, time, relevance and queries that system
30 users, e.g., subscribers, etc., have placed within the system. In accordance with the invention, providers or "other users" use the information exchange to trigger web services and custom applications, as well as notifications

5 resulting from the information or the results generated by
processing a flow of information.

10 The present invention permits the creation of a
marketplace for the attachment of value in the form of
ads, alerts, competitive information or complimentary
information for the transfer and distribution of
information, and provides real-time market pricing for
different sources of information and the price that
different entities are willing to pay to tag, attach or
15 advertise around such information. In addition,
subscribers and publishers may use the information to sell
content based on a pre-agreed price, while other
subscribers may let the information exchange optimize
their income based on current market prices. In addition
20 such a system allows the aggregation of users into
interest groups, customer profiles and spending levels and
allows the marketplace to price the delivery of ads or
information to such groups. The exchange allows
advertisers to trigger ads based on events taking place
25 and dynamically or manually initiate ads based on such
events.

30 In accordance with one embodiment, a system for
exchanging newly added information over the Internet
provides a system database for storing queries input by
system users which are used to retrieve information from
the Internet pertaining to the stored queries. A search
engine may be enabled to provide additional query results
by being linked to such exchange and based on information

5 uploaded from other users. An information exchange is
provided for receiving information obtained from the
information providers and/or the other users and for
directing the received information to specific ones of the
users based on the users queries, and an indexing and
10 counter module coupled to the information exchange is
provided for processing the received information and for
providing data pertaining to the received information.

15 In accordance with another embodiment, a method for
exchanging newly added information over the Internet is
disclosed wherein new data from information providers or
administrators is sent for processing or uploaded into an
information exchange. Search queries are entered and
stored as static queries in a system database, such static
20 or dynamic queries being input from users or subscribers
to the information exchange. Data is monitored at the
information exchange to determine whether new data has
been added to the information exchange by the information
providers or the third parties. A determination is made
25 as to whether any new uploaded data is responsive to the
static queries and, if new uploaded data is determined to
match the static queries, the matching data is sent over
the Internet or other networks to the users or subscriber
who entered the static queries.

30

30 The exchange creates an internal link and tagging
system for all information processed through the exchange
and ranks it by priority and relevance so a data tree on
any topic is created and is accessible to all. This

5 unique, time-line topic based tree provides an historical
view of any subjects and all relevant information. As new
alerts and data feeds come pouring into the exchange a new
form of search and alert can be performed which creates an
historical and contextual search map with related product
10 and services links.

Other objects and features of the present invention
will become apparent from the following detailed
description considered in conjunction with the
15 accompanying drawings. It is to be understood, however,
that the drawings are designed solely for purposes of
illustration and not as a definition of the limits of the
invention, for which reference should be made to the
appended claims. It should be further understood that the
20 drawings are not necessarily drawn to scale and that,
unless otherwise indicated, they are merely intended to
conceptually illustrate the structures and procedures
described herein.

25 **BRIEF DESCRIPTION OF THE DRAWINGS**

The foregoing and other advantages and features of
the invention will become more apparent from the detailed
description of the preferred embodiments of the invention
given below with reference to the accompanying drawings in
30 which:

FIG. 1 is an exemplary schematic block diagram
illustrating the interaction between different elements of
an information exchange in accordance with the invention;

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FIG. 2 is an exemplary schematic block diagram illustrating the processing of information collected by the information exchange of FIG. 1;

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FIG. 3 is an flow chart illustrating exemplary steps of the method of the invention; and

FIG. 4 is a flow chart illustrating alternative steps of the method in accordance with the invention.

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DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

The present invention is a system and method for collecting and supplying ranked, indexed information as a free or premium (e.g. pay) service to users and
20 advertisers. In accordance with the invention, an information exchange is operated so as to aggregate, sort, rank, attach relevant info, publish ,bill, collect and pay the appropriate parties. By using Really Simple Syndication (RSS), web services and other protocol based
25 information feeds from different web based and proprietary network sources the exchange is always going to be more accurate and current than any news gathering organization or search engine using crawlers or outbound information gathering tools. In addition, real-time notification and
30 access to the information is provided. In accordance with the invention, recently published news, inventory information, new prices and services or products are published into the system. Upon entry of the information, it is processed and distributed by the system to people,

5 related parties or other systems that have expressed an interest in being notified of the type of published information as it becomes available. RSS is an XML format for sharing headlines and other web content.

10 The system and method of the present invention permits advertisers and information providers to "piggy back" on a data delivery system to deliver custom ads and other relevant complimentary or competitive information to subscribers. The delivery of the information is based on
15 queries or listing topics, time, relevance and dynamic queries that subscribers have placed within the system or active links generated from within other programs to provide real time interactive work & search environment. In accordance with the invention, providers use the
20 information exchange to trigger web services and custom applications, as well as notifications resulting from the information or the results generated by processing a flow of information. Users specify topics of interest and can be queried for more detail when information is found to
25 further validate the notification. For example a programmer working on a virus fix can instantly be notified of work or solutions provided by others or the latest attempts, he can specify only specific sources or search for relevant topics by simply enabling his browser
30 to be in an active search mode.

Google or Yahoo/Overture permit third parties including publishers and company owners to submit information for inclusion in their search engines, they

5 also "crawl" the web to index many types of web pages. New technology standards are emerging to allow publishers and corporations to broadcast any changes or additions they make to their websites, directories, news groups or press announcements to third parties in an automated way.
10 One such standard is RSS, but other standards may evolve in the future. The RSS standard is an XML format for sharing headlines and other web content. The purpose of such exchange of information is to collect many feeds from different sources, and after processing the information to
15 convert or disseminate the information to interested parties in the same or some other format.

FIG. 1 is an exemplary schematic block diagram illustrating the interaction between different elements of
20 an information exchange in accordance with the invention. With reference to FIG. 1, the system and method of the present invention aggregates published data and collects RSS and other fields from sites, companies and public information sources that do not publish their changes and
25 additions, and processes the aggregated publications and data to be stored temporarily or indexed and stored permanently so such information can be matched to each of the search and profile query entries made by subscribers of the information exchange **100**. Subscribers who are
30 interested in being informed about specific news or announcements and changes made by specific companies may go to a website **110** and request such notifications to be sent to them in a specific format and to a specific

5 device, such as a computer, cell phone, personal digital assistant (PDA) or some other web enabled device.

10 In accordance with the invention, information exchange **100** receives requests via other programs, brokers or aggregators or search engines **115** in "wholesale" data feeds. The requests may be generated by an operating system or a specific application while a user operates a wireless device or a computer each time a search is performed using a browser or the Internet. Users **120** may
15 be asked if they wish to be notified about new results on such a search in the future. If a user accepts the invitation, the query is combined with other information provided by his device or computer, web service, or the search engine used, such as advertisements stored in ad
20 database **125**.

Upon matching such queries the exchange adds advertisements previously placed by advertisers who used the website **110** and system database **130** to place bids and
25 contract with information exchange **100** and its partners to deliver specific ads and information to a target audience. The combined information is translated into a complex query based on the user's profile, other previously entered user information and/or a ranking of search
30 results as well as third party trigger events such as news, key words and change in prices or total users in a specific group. After the delivery of such an alert, the exchange calculates the amount advertisers and third parties need to pay and the amount due to any publishers

5 or users based on the pre agreed terms published on the exchange, and then credits each user account.

The information exchange **100** compares every piece of new data that is collected and matches it to an existing
10 list of queries that is entered by users **120** or subscribers. If a match is obtained, it is analyzed via a logic flow, text searched and prioritized before a message engine translates it into a web link or combines it with other statistical or relevant data stored in an index and
15 control module **135**. The match is then sent to the subscriber or agent with any related files or additional information which may be requested by the user or determined important by the exchange . In accordance with the invention, the information exchange **100** may attach
20 advertising or promotional information provided by third parties based on the subscriber's query or the topic matching a profile of the subscribers. For example if the user has a financial user profile, the alert may include stock symbols of the company's competitors or other news
25 announcements. If the news is a video clip, the system may send a link or an actual video file to the local device for viewing. In addition, the information exchange **100** may charge a fee to the subscribers and third parties for distributing information based on an agreed amount, a
30 transaction fee or a dynamic market in which advertisers bid for the right to be included first in such notifications. The information exchange **100** may also utilize artificial intelligence (AI), user feedback, Digital Objects Identifier (DOI) links, xhtml tags or

5 other tools to enhance the ability to match the flow of
information to the queries in the system, as well as to
"self train" the system to permit users **120** to prioritize
and focus their queries to relevant information aggregated
by information exchange **100**. In general, comparison
10 engines or other automated systems may contain millions of
queries that access information exchange **100** at any given
time and during use. Such users or engines may generate a
substantial revenue stream if their users conversion ratio
for goods and services is better than the current web
15 advertising systems by providing enhanced services to
their customers.

The Information exchange **100** provides an alternative
to the traditional methods of submitting information to
20 the public, such as via a press releases or web sites.
Typically, such information is submitted with the hope
that people who receive the information will actually read
it. In the present invention, conventional systems are
replaced by a system that gives publishers and sources of
25 unique information a good reason to publish their data
through the exchange, product announcements, pricing and
promotional announcements, new prices, software or service
releases can be directed to only interested parties. If
content that matches the interests of subscribers is
30 found, a function that is approved by the subscriber is
performed. For example, the function may be providing a
link about a press release to a specific set of
subscribers who have indicated an interest in receiving
such information or loading a demo of the program or

5 service. The exchange can provide real time ranking info of other exchange users so subscribers can make instant decision about their interest to buy or try the service.

10 With additional reference to FIG. 1, activity on information exchange **100** is initiated when new data is generated by publishers **105a**, news networks **105b**, web services **105c** or other information sources (IP). These sources are linked to the exchange via the Internet or via direct communication feeds **L1**. Administrators **145** of
15 information sites can also access the website **110** through which they can administer their interaction with information exchange **100**. Users **120** may access the exchange **100** via the website **110** or by entering searches via brokers and search engines **115**. These entries are
20 then translated into one time or ongoing queries with the information exchange **100** or the index and counter module **135**.

In accordance with the invention, continuous
25 monitoring of millions of information sources can be achieved with minimal effort and very low cost by indicating certain keywords or subjects to the information exchange **100** or other collection programs. Notifications can be sent almost immediately to a variety of
30 communication devices, such as wireless devices, PDA's, computers, etc. In accordance with the invention, the messages or services will appear in a variety of formats and will support existing standards and proprietary

5 systems, such as email, instant messengers, Short Message Service (SMS) messages and Bloomberg terminals.

In addition, information exchange **100** provides client software interface and personal web-logs which permit
10 subscribers to manage their accounts, queries, budgets, profiles, historical events and prioritization that are stored in system database **130**. Moreover, information exchange **100** also synchronizes user storage devices with all relevant information that is found. As a result, the
15 subscribers are continuously provided with the latest data about the topics they care about most, and can access them immediately on their device without the need to access the network or use their computers. Preferably, the subscribers are provided with up to 60 days of the latest
20 information which may include voice video and data on their topics of choice which they may access locally without internet connections since the exchange synchronizes their data when they are available online.

25 The Information exchange **100** has a direct XML or other type of "feed" from every information provider **140** and from every web server **105c** that indicates a new list of updated content or the occurrence of changes to existing content. The list of changes may be organized
30 under standard NAICS/SIC codes or use XML headers for classifications to permit the ease with which content is matched and distributed to interested parties. As a result, owners of content are permitted to publish

5 specific information while keeping other information confidential.

Many websites do not allow crawlers or non-subscribers to access internal data. As a result, the
10 majority of the information on the website is not accessible to search engines. In contrast, information exchange **100** functions as a trusted partner in collecting, processing and notifying specific subscribers with specific information which otherwise would not be
15 available. Here, the information exchange **100** can also function as a central clearing facility to process large numbers of transactions which require micro payments that would otherwise not be economical for any of the individual information sources to process. The exchange
20 can manage the login, security, and validation of subscriber information for millions of small publishers or information providers who may not have relationship with such clients but would like to charge for their service. In an embodiment of the invention, information exchange
25 **100** manages and delivers advertising or competitive content on a publisher's original site when users utilize notifications by the exchange to link or visit the actual website of the publishers.

30 In another embodiment of the invention, the flow of information is used to generate profits for originators of content, aggregators or traders of ad queries, subscribers and advertisers of the information exchange **100**. The exchange provides for full transparency of pricing related

5 to any buy and sell offer for keywords or event triggered
ads. Such transparency dramatically reduces the need for
aggregators such as Google, Yahoo and other search engines
who use a system by which advertisers bid blindly for
keywords without knowing what the market price is to reach
10 a user interested in such keyword. Such bids which are
subsequently translated into commercial listings provided
side by side with the free search results generated by the
search engines provide a very high margin for the search
engine. However the providers of the information and the
15 users of the search engines do not have a way to generate
income or obtain a portion of the fees charged by the
search engine. In addition, the ability of the buyers of
the keywords to refine their "hits" is limited, because
Google has limited knowledge about the person performing
20 the search or his real intent to buy or engage in
commerce.

In contrast, the information exchange **100** of the
present invention permits the publishers **105a**,
25 aggregators, subscribers and the information providers **140**
to receive a portion of the fees charged by the
information exchange, as well as to obtain the true value
of what buyers and sellers are willing to pay or be paid
for certain listings or for performing specific
30 transactions since the exchange charges a transaction fee
and not the margin between what it pays and what it
collects from advertisers. Such full disclosure will
immediately provide lower prices for advertisers and
aggregate many users who will be happy to be paid for

5 their daily queries. In another embodiment of the present invention, the collection and sale of statistical and usage information about transactions conducted by the exchange provides another source of revenues. Many sources including financial institutions and brokers will
10 pay for such information since it can be used as an early indicator to show trends with products, companies, prices and services. Here, information exchange **100** makes all such information available to third parties for a fee.

15 In accordance with the present invention, an expanded list of topics that subscribers have interest in is managed, and proactive notification and formatting of such data is provided to users **120** whenever a topic appears on the Internet in the context requested by the subscriber.
20 As a result, advertisers and businesses are permitted to more accurately target potential customers. In addition, the customization of when and what to send to each subscriber is performed. Different messages and different prices are also sent based on the specific events
25 generated by third parties or the information exchange **100**. For example, the system of the present invention permits an advertiser to indicate to the information exchange **100** that an ad about life insurance should be sent to all subscribers who have entered the word
30 "disaster" only when news about a disaster event passes through the exchange. Similarly, a manufacturer may request to send a specific ad with a specific price each time a news release or posting about a product from a competitor passes through the information exchange. Here,

5 the notice may be sent only to a specific set of subscribers which have provided a profile accepted by the manufacturer.

Information exchange **100** also uses a combination of
10 events to generate leads. For example, a person moving from one home to another will indicate to the exchange he is interested in receiving information pertaining to his new location. Here, a list is created of competitive offers from movers, mortgage banks, insurance agents,
15 local merchants and other relevant things the subscriber may need but may not think of. The exchange may also permit advertisers to target people who have completed a series of actions and select only those for a special promotion or for target marketing. The subscribers may
20 request the exchange to always provide competitive information for any offer made by an advertiser as a way to use the exchange to validate the value of a specific offer.

25 With additional reference to FIG. 1, index and counter module **135** is provided so that information exchange **100** may also provide, or allow others to provide data about the information flowing through the exchange, as well as trigger notifications to users **120** when certain
30 events occur. For example, when a business owner wants to know that the number of times a competitor is mentioned in the news exceeds a certain number or exceeds the number of times his own company is mentioned. Proactive searching and message delivery in this manner also permits

5 subscribers of the information exchange to rank
information sources and direct the associated data flow to
specific inboxes or locations. Here, the rankings allow
advertisers and businesses to better target their ads and
to obtain a higher ratio of conversions to orders or
10 visits to their websites.

In another embodiment of the invention, the
information exchange **100** is used by information providers
or third parties for custom notifications and the creation
15 of a dashboard like facilitator which will collect alarms
and notification information from the Internet and third
parties. Here, subscribers are permitted to bid to be
ranked highest to effect the order by which notifications
may be sent out, as well as the time delay the subscriber
20 may request before the message may be sent out to other
competing subscribers.

FIG. 2 is an exemplary schematic block diagram
illustrating the processing of information collected by
25 the information exchange **100** of FIG. 1. The information
collected in the exchange **100** is divided into specific
flows of information. With specific reference to FIG. 2,
content from the information sources and publishers **105a**,
105b, **105c** is collected and provided to a message logic
30 flow module **210**. The message logic flow module **210**
determines the source, content, priority, size, relevance
and uniqueness of the information. In alternative
embodiments of the present invention, other attributes
such as historical information, related information, a

5 ranking of the importance of the information, uniqueness
of information, etc. , are added to the message logic
flow. This is possible because all message information is
derived from the XML and other protocol information that
are provided with website links.

10

Exchange database **220** or a memory resident hash table
is used to store queries and counter and statistical
analysis data in the index and counter module **135**. The
data in the information flow may be compared to other
15 information located in exchange database **220** (e.g.,
information stored within index and counter module **135**),
and forwarded to other parts of the information exchange
100 or discarded.

20

Information exchangers or other aggregators, such as
information brokers **240**, are permitted to exchange
additional information with the information exchange **100**.
A controller **250** is located in the information exchange
100. The aggregators or other information exchangers **240**
25 are managed by the controller **250** which verifies and
handles communication and content delivery to the users
120. The controller 250 may allow certain information to
flow directly from 210 to 285 if it determined that the
information is for public interest such as a notice from
30 the federal government or a critical news alert. The
controller 250 is also used to validate users 120 and to
administer user preferences and rights to access and pay
for certain information.

5 After the content in the information is processed by
the message flow module **210** in the information exchange
100, a specific set of searches is conducted by the text
search and parse engine **255** against text index and
database search entries located in the index and counter
10 module **135** to located matches and related links. The
matched results are provided to a prioritization engine
260 which uses user queries stored in query directory **265**
of exchange database **220** to rank the search results based
on rankings stored in ranking directory **270** of exchange
15 database **220**. The prioritization engine **260** also forwards
the ranked results to the administration module **275** of the
information exchange, and accesses a billing and
settlement database **300** which stores billing, settlement,
notification and reporting information to confirm the
20 identity of subscribers who need to be notified of their
status and credit standing. Database **300** also performs
all billing functions such as charging, collecting and
crediting the appropriate parties against their
transactions. The same member of the exchange may be
25 charged in one transaction and be paid in the next,
resulting in netting of all their charges and credits by
the exchange.

 The prioritization engine **260** forwards the search
30 results to message engine **285** which packages the search
results with specific ads stored in ad registry **280** of the
exchange database **220** or other external ads and results
and forwards them in the format and at the schedule
requested by the subscribers to a predetermined

5 destination, such as an internal web-log, external email,
web agents **297**, communication devices **290** and/or servers
295. The messaging engine 285 updates the billing and
settlement database, to ascertain who should be charged
for what and who should be credited as a result of the
10 notice just sent since each notice may have a different
combination and content and as such different pricing to
the parties involved. The information exchange thus allows
real time pricing for each transaction in contrast to
today's static advertising environment.

15

After a subscriber is provided with a notification
that requested content is available, a billing record is
generated by a combination of the various processing
modules of the exchange and sent to the billing and
20 settlement database **300** so that real time settlement and
billing information can be generated for internal use, as
well as for use by external users of the information
exchange **100**. It should be noted that some of the
aforementioned steps may be skipped if, for example, the
25 subscriber is a search engine which is using the
information exchange **100** to collect all published data,
but is not billed for the receiving the information or any
advertisements from the exchange.

30 In accordance with the invention, a subscriber may
enter a website **110** via a computing device **290**, servers
295 or web agents **297**. Preferably, the computing device
is a PDA, computer, mobile phone or some other web enabled
device.

5

The entered search data is distributed by the information exchange **100** to the multiple modules or databases in exchange database **220** and compared to historical results, such as traffic volumes. In accordance with the invention, the subscriber may be provided with instant feedback on the frequency of the entered search data and the likely sources to provide such information in the future. The subscriber may then modify the request or confirm his entry. Upon confirming the entry, the multiple modules or databases in exchange database **220**, in combination with the available data in the billing and settlement database **300**, will determine if such a query is at no fee or should be charged, and will notify the subscriber of the decision. If the transaction is accepted by both parties, all relevant depositories in exchange database **220** are updated, and an attempt to match all new information from the information providers **140** that is loaded into information sources and publishers **105a**, **105b**, **105c** and the aggregators and brokers **240** is performed. If a match occurs, relevant ads and other information are packaged and distributed to the relevant subscriber(s).

In accordance with the invention, an advertiser **310** may enter a website **110** and identify key words, trigger events, profiles of users or a minimum number of user groups in which he is interested. Here, a subscriber may view historical traffic volumes and prices paid by other advertisers for the identified categories or he may place

5 complex instructions with the administrator module **275** to
initiate ads or notifications under certain specific
conditions or be added to certain user or interest groups
which may pay a high price for accepting notifications.
Such entries are processed by the information exchange
10 **100**, exchange database **220** and billing and settlement
database **300**. The entries are continuously monitored in
order to optimize matching and spending by advertisers **310**
on the information exchange **100**. Such system provides for
market based balance of supply and demand between
15 advertisers and users or buyers which is governed by
conversion rates instead of artificial pricing of
keywords, the latter of which has no correlation to
results or to the price of such hits.

20 When multiple subscribing members use the exchange
100, it is possible for them to interact in groups and
view different parts of the bid and ask for spreads for
different topics and details of the notification engine in
the billing and settlement database **300**. The multiple
25 parties will see the real time status of their accounts,
financial and historical transactions, and the trends and
activities of the different members. This allows buyers to
be informed about all offers in the market , provide for
price transparency and be paid for evaluating different
30 options from different providers.

Advertisers may embed complex tags, links, triggers
and other forms of code to track the interaction of users
with their offers sent by the exchange so they can match

5 ads to actual orders on their systems and measure in high
degree of assurance their conversion rates and cost per
new order or new customer. By linking such results from
their supply chain and internal systems directly to the
information exchange, advertisers can automatically direct
10 their budget away from groups and users who have low
conversion rate to leads, notifications, events and
triggers which have high conversion rates and reliably
count on such data.

15 The contemplated embodiments represent only a small
fraction of the uses information exchange **100** may provide
to businesses and individuals who need to be notified
about events and changes occurring worldwide. For
example, in other embodiments, the information exchange
20 **100** may also function as a third party web service
clearinghouse to many other search engines and websites
seeking to outsource the notification and management of
their subscribers. As a result, an efficient and managed
notification system is achieved, which simplifies and
25 provides for a manageable individual portal of
notifications and information. Such a solution may be
integrated with existing email or IM programs to provide
integrated messaging. Here, information exchange **100** can
be used to provide free instant messaging for wireless
30 devices by placing relevant ads or key word banners based
in content sent from one wireless subscriber to another.
As a result, the system of the present invention replaces
an SMS system, where the sender and receiver pay for each
message that is sent over the system. Similarly, an

5 instant messenger or any other program can link via web services or xhtml to information exchange **100** and use it to serve ads or content to the users **120** or subscribers.

10 In another embodiment, information exchange **100** may charge some publishers for their data, while paying other publishers for their data. For example, a company issuing a press release may have to pay for submitting its data to the exchange, while a newspaper writing about such press releases may be paid by the exchange for the submission of
15 its data. In a similar way, a subscriber to the exchange may pay to receive notifications from specific information sources, while being paid each time the notification from others is read. Here, the function of information exchange **100** is to collect, process, notify and settle the
20 financial transactions resulting from each transaction triggered by the exchange based on a pre agreed financial formula entered by its members.

FIG. 3 is a flow chart illustrating the steps of the
25 method of the invention in accordance with the invention. The method is implemented when new data is uploaded to the information exchange, as indicated in step **300**. Here, the new data is content that is uploaded to the information exchange **100** by information providers **140** or
30 administrators **145**. The new data is made available to publishers **105a**, new networks **105b** and/or web servers **105c** or other information sources (IP).

5 Search queries are entered and stored in the system database by users **120** or subscribers to the system, as indicated in step **310**. In this case, the information exchange **100** receives requests via other programs, brokers or aggregators or search engines **115** in "wholesale" data
10 feeds. The requests may be generated by an operating system or a specific application while a user operates a wireless device or a computer or each time a search is performed using a browser or the Internet. The users **120** may be asked if they wish to be notified about new results
15 on such a search in the future. If the invitation is accepted, the query is combined with other information provided by his device or computer, web service, or the search engine used, such as advertisements stored in ad database **125**. Here, advertisers use the website **110** and
20 system database **130** to place bids and contract with information exchange **100** and its partners to deliver specific ads and information to a target audience.

 The combined information is translated into a complex query based on the user's profile, other previously
25 entered user information and/or a ranking of search results. This new query is entered into the system database **130** as a predetermined "static" query, which is accessed by information exchange **100**.

30 The information exchange **100** continuously monitors the uploaded data to determine whether new data has been added to the information exchange by the information providers **140** or administrators **145**, as indicated in step **320**. Next, the information exchange **100** compares every piece of

5 new data that is collected to a list of static queries entered by the users **120** or subscribers to locate content in the new data that matches the queries entered by the users **120**, as indicated in step **330**. If no match is obtained, a return to step **320** occurs, where the
10 information exchange resumes monitoring the uploaded data to determine whether new data has been added to the information exchange.

If a match is obtained, it is analyzed via a logic
15 flow, text searched and prioritized before a message engine translates it into a web link or combines it with other statistical or relevant data stored in the index and control module **135** (see FIG. 2).

20 At this stage, the information exchange **100** may attach advertising or promotional information provided by third parties based on the subscriber's query or the topic sent to a profile of the subscribers. In addition, the information exchange **100** may charge a fee to the
25 subscribers and third parties for distributing information based on an agreed amount, a transaction fee or a dynamic market in which advertisers bid for the right to be included first in such notifications.

30 The matching content is then sent to the subscriber or agent (e.g. broker, etc.) who ordered the query over the information exchange **100**, as indicated in step **340**. The information is disseminated to the user or subscriber in a specific format and to a specific device, such as a

5 computer, cell phone, PDA or some other web enabled device.

FIG. 4 is a flow chart illustrating alternative steps of the method in accordance with the invention. The method
10 is implemented when a search for new data is performed, as indicated in step **400**. Once the new data is located it is aggregated and processed for temporary storage or indexing and stored permanently so such information can be matched to each search and profile query entries made by subscribers of
15 the information exchange.

The aggregated data is then sorted into new categories, as indicated in step **410**. Next, advertisements and relevant data are included in the new categories, as indicated in
20 step **420**. Here, the ads are ads that were previously placed in the system by advertisers who used the website **110** and system database **130** to place bids and contract with information exchange **100** and its partners to deliver specific ads and information to a target audience.

25

Alerts are sent to users or subscribers based on the queries that were previously entered, as indicated in step **430**. Here, the combined information is translated into a complex query based on a user's profile, other previously
30 entered user information and/or a ranking of search results as well as third party trigger events such as news, key words and change in prices or total users in a specific group.

5 Statistics related to the delivery and accessing of the
ads are generated, as indicated in step **450**. A calculation
of purchases and payouts by each user is performed, as
indicated in step **460**. Here, the exchange **100** calculates
the amount advertisers and third parties need to pay and the
10 amount due to any publishers or users based on pre agreed
terms published on the exchange, and then credits each user
account.

Each content provider and user is then billed, as
15 indicated in step **470**. The collection of payments is then
performed, as indicated in step **480**. Here, billing and
settlement database **300** is used to performs all billing
functions, such as charging , collecting and crediting the
appropriate parties against their transactions.

20

The present invention permits the creation of a
market place for the transfer and distribution of
information, and provides real-time market pricing for
different sources of information and the price that
25 different entities are willing to pay to tag, attach or
advertise around such information. In addition,
subscribers and publishers may use the information to sell
content based on a pre-agreed price, while other
subscribers may let the information exchange **100** optimize
30 their income based on current market prices.

Thus, while there have shown and described and pointed
out fundamental novel features of the invention as applied
to a preferred embodiment thereof, it will be understood

5 that various omissions and substitutions and changes in the
form and details of the devices illustrated, and in their
operation, may be made by those skilled in the art without
departing from the spirit of the invention. For example, it
is expressly intended that all combinations of those
10 elements and/or method steps which perform substantially the
same function in substantially the same way to achieve the
same results are within the scope of the invention.
Moreover, it should be recognized that structures and/or
elements and/or method steps shown and/or described in
15 connection with any disclosed form or embodiment of the
invention may be incorporated in any other disclosed or
described or suggested form or embodiment as a general
matter of design choice. It is the intention, therefore, to
be limited only as indicated by the scope of the claims
20 appended hereto.